CLAIMS

1. A method of diagnosing CRC or a predisposition for developing CRC in a subject, comprising determining a level of expression of FGF18 in a patient-derived biological sample, wherein an increase of said level as compared to a normal control level of said gene indicates that said subject suffers from or is at risk for developing CRC.

2. The method of claim 1, wherein said determined expression level is at least 10% greater than said normal control level.

3. The method of claim 1, wherein the expression level is determined by any one method selected from group consisting of:
(a) detecting mRNA of FGF18,
(b) detecting a protein encoded by FGF18, and
(c) detecting a biological activity of a protein encoded by FGF18,

4. The method of claim 1, wherein said level of expression is determined by detecting hybridization of an FGF18 probe to a gene transcript of said patient-derived biological sample.

5. The method of claim 4, wherein said hybridization step is carried out on a DNA array.

6. The method of claim 1, wherein said biological sample comprises an epithelial cell.

7. The method of claim 1, wherein said biological sample comprises a CRC cell.

8. The method of claim 4, wherein said biological sample comprises an epithelial cell from a CRC.

9. A method of screening for a compound for treating or preventing CRC, said method comprising the steps of:
a) contacting a test compound with a polypeptide encoded by a nucleic acid of FGF18;
b) detecting the binding activity between the polypeptide and the test compound; and
c) selecting a compound that binds to the polypeptide.

10. A method of screening for a compound for treating or preventing CRC , said method comprising the steps of:

a) contacting a candidate compound with a cell expressing FGF18, and

b) selecting a compound that reduces the expression level of FGF18.

11. The method of claim 10, wherein said cell comprises a colorectal cancer cell.

12. A method of screening for a compound for treating or preventing CRC, said method comprising the steps of:

a) contacting a test compound with a polypeptide encoded by a nucleic acid of FGF18;

b) detecting the biological activity of the polypeptide of step (a); and

c) selecting a compound that suppresses the biological activity of the polypeptide encoded by a nucleic acid of FGF18 in comparison with the biological activity detected in the absence of the test compound.

13. The method of claim 12, wherein the biological activity of the polypeptide is cell proliferative activity.

14. A method of screening for compound for treating or preventing CRC, said method comprising the steps of:

a) contacting a candidate compound with a cell into which a vector comprising the transcriptional regulatory region of FGF18 and a reporter gene that is expressed under the control of the transcriptional regulatory region has been introduced

b) measuring the activity or expression of said reporter gene; and

c) selecting a compound that reduces the activity or expression level of said reporter gene, as compared to a control.

15. The method of claim14, wherein the transcriptional regulatory region comprises the ß-catenin/Tcf4 binding motief in the transcriptional regulatory region of FGF18.

16. The method of claim 15, wherein said binding motif consists of nucleotide sequence set forth in SEQ ID NO: 24.

17. A method of screening for compound for treating or preventing CRC, said method comprising the steps of:

a) contacting a DNA comprising a ß-catenin/Tcf4 binding motif in the transcriptional regulatory region of FGF18 with a ß-catenin/Tcf4 complex in the presence or absence of a candidate compound;

b) detecting the binding of the DNA and the ß-catenin/Tcf4 complex; and

c) selecting a compound that inhibits the binding of the ß-catenin/Tcf4 complex with the DNA, , as compared to a control.

18. The method of claim 17, wherein said binding motif consists of SEQ ID NO: 24.

19. A kit comprising a detection reagent which binds to nucleic acid sequence or polypeptide of FGF18.

20. A method of treating or preventing CRC in a subject comprising administering to said subject an antisense composition, said composition comprising a nucleotide sequence complementary to a coding sequence of FGF18.

21. A method of treating or preventing CRC in a subject comprising administering to said subject a siRNA composition, wherein said composition reduces the expression of a nucleic acid sequence of FGF18.

22. The method of claim 21, wherein the siRNA comprises a sense strand comprising the nucleotide sequence of SEQ ID NO: 21.

23. A method for treating or preventing CRC in a subject comprising the step of administering to said subject a pharmaceutically effective amount of an antibody or fragment thereof that binds to a protein encoded by nucleic acid of FGF18.

24. A method of treating or preventing CRC in a subject comprising administering to said subject a vaccine comprising a polypeptide encoded by a nucleic acid of FGF18 or an immunologically active fragment of said polypeptide, or a polynucleotide encoding the polypeptide.

25. A method for treating or preventing CRC in a subject, said method comprising the step of administering a compound that is obtained by the method according to any one of claims 9-18.

26. A composition for treating or preventing CRC, said composition comprising a pharmaceutically effective amount of an antisense polynucleotide or small interfering RNA against a polynucleotide of FGF18.

27. The composition of claim 26, wherein the siRNA comprises a sense strand comprising the nucleotide sequence of SEQ ID NO: 21.

28. A composition for treating or preventing CRC, said composition comprising a pharmaceutically effective amount of an antibody or fragment thereof that binds to a protein encoded by nucleic acid of FGF18.

29. A composition for treating or preventing CRC, said composition comprising a pharmaceutically effective amount of the compound selected by the method of any one of claims 9-18 as an active ingredient, and a pharmaceutically acceptable carrier.